

November 15, 2019

Via U.S. Mail

Mr. Perrin de Jong
Staff Attorney, Center for Biological Diversity
P.O. Box 6414
Asheville, NC 28816

Dear Mr. de Jong:

I write to respond to your Notice of Intent to file suit against The University of North Carolina at Chapel Hill for alleged violations of the emissions standards and limitations in the University's Title V permit. The University carefully partners with the North Carolina Division of Air Quality to run an exemplary air quality program.

I. Introduction

I would first like to provide you some background on the importance of the Cogeneration Facility to the operations of the University. The Cogeneration Facility has been supplying energy in the form of steam and electricity to the University since 1991 with earlier generations of the plant providing the same on the site since 1939, and even prior to that in previous iterations on campus dating to 1895. The Cogeneration Facility is the foundation of the University's district energy system that provides energy efficient electrical and thermal energy to support the University's teaching, research, and public service mission. Co-generating steam and electricity on site is a best practice and allows for electrical power delivery to the campus that is approximately twice as efficient as power delivered from off site and allows for the efficient production and distribution of steam close to the point of use. This practice greatly reduces overall emissions, including greenhouse gases.

Steam is used for many mission-critical items for the UNC Health Care System and the University, including support of the Level-1 trauma center and proper sanitation for research equipment. Patients on campus include the 3,500 infants born and cared for every year at the N.C. Women's Hospital and N.C. Children's Hospital. The University is the nation's fifth-largest university recipient of federal research funding and our highly collaborative interdisciplinary culture among scientists drives over \$1 billion in annual research activity. Steam is used to sterilize surgical implements for treating patients and to run autoclaves that clean research equipment. It is used for humidification in mission-critical areas such as the North Carolina Jaycee Burn Center on campus. Steam is an integral part of meeting the most mundane to the most delicate aspects of the University's core mission.

The University has studied, and continues to research ways to reduce and ultimately eliminate the use of coal while continuing to meet the rigorous levels of reliability required to sustain critical operations. To that end, the University has already cut its use of coal in half

over the last 20 years. The University is currently implementing projects that will allow even further reductions. Given the importance of the steam and electricity generated by the Cogeneration Facility, a reliable, cost-effective fuel source is essential to providing uninterrupted service.

In addition to the Cogeneration Facility, the University relies on emergency generators, which in many cases are required by the North Carolina building code. The University requires new generators on campus to meet applicable EPA-tiered standards for off-road diesel engines. As with the Cogeneration Facility, the University strives to be a good steward of the environment and State resources by being as cost-effective and fuel-efficient as possible. The generators are run as infrequently as possible and maintained according to recommended industry best practices.

II. Allegations

We have reviewed and investigated your allegations and strongly disagree that there are repeated violations. There have been a few, isolated instances of record-keeping discrepancies and other minor errors that have been reported as appropriate. Below please find our responses to each allegation.

A. The Heat Input Capacity

In your letter, you allege the following regarding a heat input limit on the University's ES-001-Boiler #6 and ES-002-Boiler #7:

“Section 2 of UNC's Title V permit is entitled “Specific Limitations and Conditions”.

Section 2.1 provides:

The emission source(s) and associated air pollution control device(s) and appurtenances listed below are subject to the following specific terms, conditions, and limitations, including the testing, monitoring, recordkeeping, and reporting requirements as specified herein:

The following section, Section 2.1.A, establishes a limit of 323.17 million British Thermal Units per hour (“mmBtu/hr”) heat input capacity for each of UNC's two coal/natural gas/No. 2 fuel oil/wood fired circulating fluidized combustion boilers, ID Nos. ES-001-Boiler #6 and ES-002-Boiler #7. In a July 28, 2015 memorandum from the North Carolina Division of Air Quality (DAQ), DAQ confirmed that “[p]ermitted heat input is 323.17 mmBtu/hr for each boiler.” *See* attachment 1.

Boiler #6 exceeded the 323.17-mmBtu/hr limit by operating at approximately 332 mmBtu/hr on December 17, 2014. *Id.* Similarly, Boiler #7 exceeded its 323.17- mmBtu/hr limit by operating at approximately 342 mmBtu/hr on December 18, 2014. *Id.* Upon information and belief, UNC has repeatedly exceeded the 323.17 mmBtu/hr limit for Boilers #6 and #7 on numerous other occasions since 2014 in violation of Section 2.1.A of UNC's Title V permit and will continue to do so."

The cited portion of the Title V permit is a descriptive term to identify the boilers' nominal input capacity calculated for the primary fuel only, while the boiler is operating at nominal atmospheric conditions, with nominal fuel and water inputs. The heat input appears as a method to identify the boiler in the description, not as an operating limit. By definition, when the boiler is operating at its rated capacity it will oscillate approximately at, above, and below this value as conditions vary from the nominal design conditions during operation. The Title V permit provides no limit of operation restricted by heat input value.

The Title V permit language continues to provide a summary of limits and/or standards "for the emission sources described above." The July 28, 2015, memorandum you cite mentions this descriptive heat input as well. The word "exceeded" is not used. The boilers did not exceed any limit. They performed at or about their rated capacity at high efficiency in all cited cases, which was not a violation of any permit limit. The Title V permit does not limit the boilers by heat input.

B. Readiness Testing Limitation

In your letter, you allege the following regarding the University's readiness testing records for certain generators and combustion sources:

"Permit condition 2.2.A of UNC's Title V permit requires: 'In order to ensure that combustion sources (emergency generators (ID Nos. ES-EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and fire water pump ES-FP-3)) do not contribute to an exceedance of the 1-hour NO₂ National Ambient Air Quality Standard (NAAQS); the Permittee may only operate these generators (ID Nos. ES- EG#21, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48 and ES-Gen-49) for readiness testing when generators (ID Nos. ES-006 and ES-007) are not operating and when readiness testing is not being performed for any other emergency generator, except ES-EG#21, ES-Gen- 12, ES-Gen- 13, ES-Gen-43, ES-Gcn-48, ES-Gen-49, and fire water pump ES-FP-3. . .

The Permittee shall maintain operational records sufficient to demonstrate that combustion sources (emergency generators (ID Nos. ES-EG#2 1, ES- Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and fire water pump ES-FP-3) have not operated for readiness testing during the concurrent operation of

generators (ID Nos. ES-006 and ES-007) and the performance of readiness testing of any other emergency generator, except ES-EG#2 I, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and fire water pump ES-FP-3. The Permittee shall make these records available to a DAQ authorized representative upon request.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D.0501(c) if the above records are not maintained.'

From March 22, 2018 through the present day, UNC has continuously failed to maintain operational records sufficient to demonstrate that combustion sources (emergency generators (ID Nos. ES-EG#2 I, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and fire water pump ES-FP-3) have not operated for readiness testing during the concurrent operation of generators (ID Nos. ES-006 and ES-007) and the performance of readiness testing of any other emergency generator, except ES-EG#2 I, ES-Gen-12, ES-Gen-13, ES-Gen-43, ES-Gen-48, ES-Gen-49, and fire water pump ES-FP-3. Therefore, UNC is in violation of 15A NCAC 02D.0501(c) and permit condition 2.2.A.1."

The University has reviewed its records and found one documented running conflict on September 20, 2018, that lasted 32 minutes. The University has reported this concurrence to DAQ.

Additionally, the University has informed DAQ of a record-keeping discrepancy regarding ES-Gen-48. During our records review, the University realized that, while records showing overall hours of operation of ES-Gen-48 had been maintained, records of the specific hours of operation had not been maintained, so the records do not conclusively demonstrate that ES-Gen-48 was not operated for readiness testing while the other emergency generators were operating. The University promptly identified the cause of the lack of records of specific operation, and has remedied the issue, so such records are now maintained.

C. Air Cleaner Inspection Requirements

In your letter, you allege the following regarding the University's required air cleaner inspections:

"Permit condition 2.1.G.3.k of UNC's Title V permit requires UNC to, every 1000 hours of operation or annually, whichever comes first, inspect the air cleaner of each of the eighty-two diesel-fired, compression ignition, emergency generators listed in permit section 2.1.G. The Permittee is deemed to be in noncompliance with 15A NCAC 2D.1111 if the above records are not maintained.

UNC has failed to inspect the air cleaner of the Davis Library fire water pump (ID No. ES-FP-3), and of all 81 other diesel-fired, compression ignition emergency generators listed in permit section 2.1.G., from June 16, 2016 to December 31, 2016 as well as each day in 2017, and 2018. Thus, UNC is in noncompliance with

15A NCAC 2D.1111 and permit condition 2.1.G.3.1.”

The University has identified five instances of possible missing documentation for annual air cleaner inspections. It is unclear why you cite to a violation “for each day” when the inspection is a once annual requirement. The documentation period in question covers over 80 different generators. The University has on the whole maintained records and has not engaged in any continuous violation.

D. Continuous Emissions Opacity Monitoring Requirements

In your letter, you allege the following regarding the University’s continuous emissions opacity monitoring requirements:

“Permit condition 2.1.A.2.f of UNC’s Title V permit requires UNC to install, calibrate, maintain, test and operate a continuous emission monitor for opacity on Boilers 6 and 7 (ID Nos. ES-001 and ES-002). The permittee is deemed to be in noncompliance with 15A NCAC 02D.0524 if the monitoring requirement is not complied with.

UNC did not calibrate, maintain, test or operate a continuous emission monitor for opacity on Boilers 6 or 7 during for every day from June 16, 2016 to December 31, 2018. Therefore, UNC is in noncompliance with 15A NCAC 02D.0524 and permit condition 2.1.A.2.f.”

The University has data to show the operation, calibration, maintenance, and testing for Boilers 6 and 7 (ID Nos. ES-001 and ES-002). The University is in compliance with the continuous emissions opacity monitoring requirements.

E. Monthly Particulate Matter Inspections Requirements

In your letter, you allege the following regarding monthly particulate matter inspections requirements:

“Permit condition 2.1.D.1.c.i. requires that UNC assure compliance with particulate matter emission controls from the coal handling, conveying, and storage system via monthly external visual inspection of the system ductwork and material collection unit for leaks. The permittee is deemed to be in noncompliance with 15A NCAC 02D.0515 if the inspection requirement is not satisfied.

UNC failed to perform monthly external visual inspections of the system ductwork and material collection unit for Coal Silo #1 Bin Vent Filter (ID No. CD-011) from June through December of 2016. Furthermore, UNC failed to perform monthly external visual inspections of the system ductwork and material collection unit for Coal Silo #2 Bin Vent Filter (ID No. CD-012) during March

and October of 2016. Therefore, UNC is in noncompliance with 15A NCAC 02D.0515 and permit condition 2.1.D.1.c.i.”

The University has records to show that it performed the visual inspections for the period in question for Coal Silo #1 Bin Vent Filter (ID No. CD-011) and Coal Silo #2 Bin Vent Filter (ID No. CD-012).

The University agrees that there was a delayed inspection done for the month of October 2016, conducted on November 4th. There were still a total of 12 inspections for the year 2016 because two inspections were performed in November. The University has maintained records and has not engaged in any continuous violation.

F. Reporting Requirements to DAQ and EPA

In your letter, you allege the following regarding the University’s reporting requirements to the DAQ and the EPA:

“Permit condition 3.I.A.3.a. of UNC’s Title V permit requires UNC to notify DAQ of any deviations from permit requirements other than emissions and malfunction deviations in a written, certified, quarterly report. This report must detail the likely cause of the deviation and any preventative or corrective actions taken. UNC has failed to notify DAQ of the non-emissions and non-malfunction permit deviations described in Sections A–E, and G–I of this letter via written, certified, quarterly reports. These failures are violations of 15A NCAC 02D.0515 and permit condition 3.I.A.3.a.

Further, permit condition 3.P. requires UNC to notify DAQ and the Environmental Protection Agency (EPA) annually of any deviations from permit terms and conditions during the prior calendar year via UNC’s annual compliance certification. UNC has failed to notify DAQ and EPA of deviations from permit terms and conditions described in Sections A–E, and G–I of this letter via UNC’s annual compliance certification.”

The University has reported all possible deviations from our permit limits to appropriate authorities as we have become aware of them. Upon receiving your letter, the University reviewed our documentation to investigate your specific concerns. Where we found potential violations, we discussed those with the appropriate agency. The University did not fail to report any discrepancy of which we were aware. On the whole, the University has an accurate and complete record-keeping system.

G. Coal Ash Visible Emissions Inspections Requirements

In your letter, you allege the following regarding the University’s coal ash visible emissions

inspections requirements:

“Permit Condition 2.1.E.2.c of UNC’s Title V permit requires that UNC once a day observe the emission points for the coal ash handling, storage, and loading system (ID No. ES-030 and ES-0303A). Condition 2.1.E.2.d requires UNC to maintain a logbook for these observations. The Permittee shall be deemed in noncompliance with 15A NCAC 02D.0521 if these records are not maintained. UNC did not maintain a logbook of these observations from 1/1/2018 to 11/29/2018. Thus, UNC is in violation of 15A NCAC 02D.0521 and Permit Condition 2.1.E.2.c.

Furthermore, on 11/1/2017, 11/2/2017, 11/3/2017 and 11/4/2017, UNC claimed in its logbook that they did the required visual observation at 7 am. However, twilight was at 7:13 am on 11/1/2017 and sunrise was at 7:39 am. On 11/2/2017, twilight was at 7:14 am and sunrise was at 7:40 am. On 11/3/17, twilight was at 7:15 am and sunrise was at 7:41 am. On 11/4/2017, twilight was at 7:16 am and sunrise was at 7:42 am. Thus, UNC did not maintain accurate records for these days in violation of 15A NCAC 02D.0521 and Permit Condition 2.1.E.2.c.”

The University has accurate and complete log books of all coal ash visible emissions inspections for the calendar year 2018. These inspections took place under well-lit, interior conditions; natural light was not relevant as the area has extensive artificial lighting.

H. Coal Ash Silo Bagfilter Inspections Requirements

In your letter, you allege the following regarding the University’s coal ash visible emissions inspections requirements:

“Permit condition 2.1.E.c of UNC’s Title V permit requires monthly inspections of the system ductwork and material collection unit for leaks and annual internal inspection of the bagfilters structural integrity during the period of seasonal down time for the bagfilter for the coal ash storage silo (ID No. CD-031). Permit condition 2.1.E.d requires a logbook be maintained for these inspections as well as any maintenance performed. The Permittee is deemed in noncompliance with 15A NCAC 02D.0515 if the ductwork and bagfilters are not inspected and maintained or if the logbook is not maintained.

There was no log of an inspection for October 2016. Thus, UNC failed to conduct this monthly inspection and/or failed to conduct this monthly inspection for October, 2016. Therefore, UNC is in violation of 15A NCAC 02D.0515 and Permit condition 2.1.E.d and/or Permit condition 2.1.E.c.”

The University conducted 12 monthly inspections of the cited system during calendar year 2016 with the October inspection conducted on November 4th and noted as such in

the log book. This allegation of a violation is repetitive of that discussed in Section E, above.

I. Carbon Monoxide Emission Requirements

In your letter, you allege the following regarding the University's carbon monoxide emission requirements:

“Permit condition 2.1.A.4.b. of UNC's Title V permit limits carbon monoxide emissions from Boilers 6 and 7 (ID Nos. ES-001 and ES-002) based on carbon monoxide levels corrected to 7% oxygen. However, UNC's December 2014 Emissions Test Report for ES-001 and ES-002 reports carbon monoxide emissions from Boilers 6 and 7 corrected to 15% oxygen. Thus, UNC is in violation of permit condition 2.1.A.4.b.”

The University relies on an outside vendor to calculate the carbon monoxide emission requirements. Upon receiving your letter that there was a potential error in these calculations, we requested that the vendor rerun the calculation corrected to 7% oxygen. Neither the original report nor the recalculated figures show the University's permitted carbon monoxide emissions were exceeded.

J. Daily Calibration Drift Assessment Requirements

In your letter, you allege the following regarding the University's carbon monoxide emission requirements:

“Permit conditions 2.1.B.1.c, 2.1.B.2.e and 40 CFR Part 60 Appendix F Quality Assurance Procedures (Procedure 1) require UNC to conduct and report a daily Calibration Drift Assessment for the continuous emissions monitoring system for Boiler #8 (ES-003). On 6/22/2019, for Boiler #8 (ES-003) UNC failed to perform a daily Calibration Drift Assessment in violation of 40 CFR Part 60 Appendix F Quality Assurance Procedures (Procedure 1). *See* Deviation report ES-003-01-0619 attached to 2019 H1 Title V semi-annual report. Therefore, UNC is in violation of 15A NCAC02D.0524, Permit conditions 2.1.B.1.c, 2.1.B.2.e and 40 CFR Part 60 Appendix F Quality Assurance Procedures (Procedure 1).”

The University acknowledges that a deviation report has already been submitted to DAQ, as attached to the 2019 Semi-Annual Report.

III. Conclusion

The Cogeneration Facility is a critical component of the University's district energy system, providing essential steam and electricity for functions as delicate as preserving

humidity in an environmental chamber and as powerful as keeping UNC Hospitals operating during a snowstorm. The Cogeneration Facility, as well as the other combustion sources under the University's Title V permit, are the gold standard of how to run a compliance program for a major research university that also supports a world-class health-care system. The Cogeneration Facility won an award from the EPA in 2000 for "the superior environmental performance of the central utility plant achieved through the use of pollution preventing combined heat and power," and continues to be an Energy Star rated facility. We share the Center's goals of reducing fossil fuel consumption and ultimately eliminating coal as a fuel source. Over the past 20 years, the University has cut coal usage from 140,000 tons to 70,000 tons.

While we share the goal of reducing carbon emissions, we must strongly disagree with your allegations against our combustion sources. The specific violations in your letter, even where there are potential violations of our permit, do not support the allegations you have made about the University publicly, such as we are "emit[ting] four to six times the limits of nitrogen oxide and sulfur dioxide pollution allowed under the Clean Air Act."

This letter adequately addresses your concerns about the University's documentation. We stand by our compliance program. Should you file a lawsuit, the University will vigorously defend its Title V program.

Sincerely,



Jonathan Pruitt

cc: Andrew R. Wheeler, US EPA Administrator
Mary S. Walker, Administrator, US EPA Region 4
Governor Roy Cooper, State of North Carolina
Michael A. Abraczinskas, NC DAQ Director